REMARKS

The Office Action dated March 13, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-18 are currently pending in the application. Claims 1, 2, 7, 9, 10, 17, and 18 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Claims 1-18 are respectfully submitted for consideration.

The Office Action rejected all of claims 1-18 under 35 U.S.C. §103(a) as being unpatentable over Marjelund (U.S. Patent Pub. No. 2002/0105906) in view of Koraitim (U.S. Patent No. 6,370,117). The Office Action took the position that Marjelund discloses all of the elements of the claims, with the exception of dividing a time slot into a predetermined number of sub-blocks and averaging a sub-block reservation rate for a time slot to determine a downlink sub-block reservation rate. The Office Action then cited Koraitim as allegedly curing the deficiencies in Marjelund. The rejection is respectfully traversed for the following reasons.

Claim 1, upon which claims 3-8 are dependent, recites a method which includes dividing a time slot into a predetermined number of sub-blocks, defining an amount of available capacity for a non-real time use in a time slot, defining a number of sub-blocks reserved by a real-time use in a time slot, defining a number of sub-blocks reserved by

non-real time use in a time slot, and defining a number of free sub-blocks in a time slot based on the sub-blocks reserved by the real-time use and the sub-blocks reserved by the non-real time use. The method also includes calculating a sub-block reservation rate for a time slot based on the number of free sub-blocks, the amount of available capacity for the non-real time use in the time slot and the number of sub-blocks in a time slot not reserved by real time use, and averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate.

Claim 2 recites a method including dividing a time slot into a predetermined number of sub-blocks, defining an amount of available capacity for a non-real time use in a time slot, defining a number of sub-blocks reserved by a real time use in a time slot, defining a number of sub-blocks reserved by a non-real time use in a time slot, and defining a number of free sub-blocks in a time slot based on the sub-blocks reserved by the real time use and the sub-blocks reserved by the non-real time use. The method further includes calculating a sub-block reservation rate for a time slot based on the number of free sub-blocks, the amount of available capacity for the non-real time use in a time slot and the number of sub-blocks in a time slot not reserved by real time use, averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate, and directing a transmission in a telecommunication system to less loaded cells or timeslots.

Claim 9 recites a network element including means for dividing a time slot into a predetermined number of sub-blocks, means for defining an amount of available capacity

for a non-real time use in a time slot, means for defining a number of sub-blocks reserved by a real time use in a time slot, means for defining a number of sub-blocks reserved by a non-real time use in a time slot, and means for defining a number of free sub-blocks in a time slot based on sub-blocks reserved by the real time use and the sub-blocks reserved by the non-real time use. The network element further includes means for calculating a sub-block reservation rate for a time slot based on the number of free sub-blocks, the amount of available capacity for the non-real time use in the time slot and the number of sub-blocks in a time slot not reserved by real time use, and means for averaging a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate.

Claim 10, upon which claims 11-16 are dependent, recites a network element including means for dividing a time slot into a predetermined number of sub-blocks, means for defining an amount of available capacity for a non-real time use in a time slot, means for defining a number of sub-blocks reserved by a real time use in a time slot, means for defining a number of sub-blocks reserved by a non-real time use in a time slot, and means for defining a number of free sub-blocks in a time slot based on the sub-blocks reserved by the real time use and the sub-blocks reserved by the non-real time use. The network element further includes means for calculating a sub-block reservation rate for a time slot based on the number of free sub-blocks, the amount of available capacity for the non-real time use in the time slot and the number of sub-blocks in a time slot not reserved by real time use, means for averaging a sub-block reservation rate for a time slot to

determine a down link sub-block reservation rate, and means for directing a transmission in a telecommunication system to less loaded cells or timeslots.

Claim 17 recites a network element configured to divide a time slot into a predetermined number of sub-blocks, define an amount of available capacity for a non-real time use in a time slot, define a number of sub-blocks reserved by a real time use in a time slot, define a number of sub-blocks reserved by a non-real time use in a time slot, and define a number of free sub-blocks in a time slot based on sub-blocks reserved by the real time use and the sub-blocks reserved by the non-real time use. The network element is also configured to calculate a sub-block reservation rate for a time slot based on the number of free sub-blocks the amount of available capacity for non-real time use in the time slot and the number of sub-blocks in a time slot not reserved by real time use, and average a sub-block reservation rate for a time slot to get down link sub-block reservation rate.

Claim 18 recites a network element configured to divide a time slot into a predetermined number of sub-blocks, define an amount of available capacity for a non-real time use in a time slot, define a number of sub-blocks reserved by real time use in a time slot, define a number of sub-blocks reserved by a non-real time use in a time slot, and define a number of free sub-blocks in a time slot based on sub-blocks reserved by the real time use and the sub-blocks reserved by the non-real time use. The network element is also configured to calculate a sub-block reservation rate for a time slot based on the number of free sub-blocks, the amount of available capacity for the non-real time use and

the number of sub-blocks in a time slot not reserved by real time use, average a sub-block reservation rate for a time slot to determine a down link sub-block reservation rate, and direct a transmission in a telecommunication system to less loaded cells or timeslots.

The method and system of the invention provide several advantages. For example, in one embodiment, the invention is capable of providing information on how many RT and NRT users are sharing per time slot, i.e., cell load information also including NRT users.

As will be discussed below, the combination of Marjelund and Koraitim fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the advantages and features discussed above.

Marjelund discloses a method for controlling transmission resources of a radio access network adapted to transmit data packets in real time traffic and in non-real traffic. The method includes obtaining information related to transmission resources required for handling real time traffic, and reserving transmission resources for handling non-real time traffic based on a knowledge of the overall available transmission resources of a radio transceiver device of said radio access network and the information related to the transmission resources required for handling real time traffic by said radio transceiver. Transmission resources are subsequently activated based on channel elements which are identified by pre-selected channel element identifiers.

Koraitim discloses a resource allocation method and system making use of a dynamically controlled boundary policy to satisfy the quality of service parameters

guaranteed by the system for two traffic classes having to share a communication channel divided into frames. The boundary position (BP) between the traffic sub-frames and hence the allocation decision itself are defined by a resource allocator 23 for each frame, after monitoring the filling level of traffic request queues 21, 22.

Applicants respectfully submit that Marjelund and Koraitim, whether viewed individually or combined, fail to disclose or suggest all of the elements of the present claims. For example, the combination of Marjelund and Koraitim does not disclose or suggest "defining an amount of available capacity for a non-real time use in a time slot," as recited in claim 1 and similarly recited in claims 2, 9, 10, 17, and 18. The Office Action alleged that Marjelund teaches a time slot and defining the amount of available capacity for non-real time use in a time slot. Applicants respectfully disagree.

Marjelund only discloses that a respective channel used for transmission according to an asynchronous transmission mode (ATM) consists of a plurality of virtual paths denoted by virtual path identifiers, and each virtual path as such comprises a plurality of virtual channels denoted by virtual channel identifiers. Upon partitioning the physical resources, the real time traffic is allocated a certain required number of the virtual paths and/or virtual channels, while the non-real time traffic is allocated the remaining resources (Marjelund, paragraph 0024).

Asynchronous transmission mode (ATM) is used for high-speed transport and switching of various types of data, voice, and video signals. ATM provides two types of transport connections: virtual paths and virtual channels. A virtual channel is a

unidirectional pipe consisting of a sequence of connection elements. A virtual path consists of a set of virtual channels. ATM is a transfer mode in which the information is organized into cells. An ATM cell is the smallest data component in an ATM stream. Each channel and path has an identifier associated with it. All channels within a single path must have distinct channel identifiers. An individual channel can therefore be uniquely identified by its virtual channel and virtual path numbers.

In other words, Marjelund only discloses an ATM system comprising virtual paths and virtual channels. Marjelund does not, however, disclose or suggest a time slot and defining the amount of available capacity for non-real time use in a time slot. In fact, Marjelund is silent with respect to time slots. Koraitim, as acknowledged by the Office Action, also fails to disclose or suggest this limitation of the claims. Thus, the combination of Marjelund and Koraitim fails to disclose or suggest "defining an amount of available capacity for a non-real time use in a time slot," as recited in claim 1 and similarly recited in claims 2, 9, 10, 17, and 18.

In addition, Applicants respectfully submit that the combination of Marjelund and Koraitim fails to disclose or suggest "dividing a time slot into a predetermined number of sub-blocks," as recited in claim 1 and similarly recited in claims 2, 9, 10, 17, and 18. The Office Action alleged that Koraitim teaches dividing a time slot into a predetermined number of sub-blocks (Office Action, page 2). Applicants respectfully disagree.

Koraitim merely discloses a frame structure with two movable boundaries between three kinds of time slots (Koraitim, Figure1). In the frame structure, each frame of N(F)

time slots is further subdivided into three compartments each comprising several time slots. The compartments are a CBR traffic sub-frame, a non-real time variable bit rate traffic sub-frame, or a VBR sub-frame and a common resource pool (column 4, lines 18-35).

In other words, Koraitim teaches dividing a frame into sub-frames comprising a plurality of time slots. Koraitim does not, however, disclose or suggest dividing a time slot into sub-blocks. Marjelund, as acknowledged by the Office Action, also does not disclose or suggest this limitation of the claims. Accordingly, the combination of Marjelund and Koraitim fails to disclose or suggest "dividing a time slot into a predetermined number of sub-blocks," as recited in claim 1 and similarly recited in claims 2, 9, 10, 17, and 18.

Claims 3-8 and 11-16 are dependent upon claims 1 and 10, respectively. As such, claims 3-8 and 11-16 should be allowed for at least their dependence upon claims 1 and 10, and for the specific limitations recited therein.

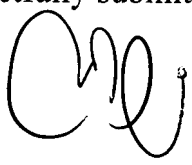
Furthermore, Applicants respectfully assert that a person of skill in the art would not be motivated to combine the teachings of Marjelund and Koraitim. Marjelund teaches an ATM system and Koraitim teaches the dividing of transmission frames. A person skilled in the art would not have combined Marjelund and Koraitim since they are directed to different technical fields. However, even if Marjelund and Koraitim were properly combinable, the resultant combination would not disclose or suggest all of the elements of the present claims, as discussed above.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-18 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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